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| 09/750,899 | 12/28/2000 | James Lee Ries | 00-058-TAP | 2752 |

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| EXAMINER |
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HUA, LY

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| ART UNIT | PAPER NUMBER |
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2135

DATE MAILED: 09/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/750,899

Applicant(s)

RIES ET AL.

Examiner

Ly V. Hua

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

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DETAILED ACTION

Non-statutory Provisional Obvious Double Patenting

1. It is clear that the application is filed by a common assignee (i.e., Storage Technology Corporation).
2. This rejection deals with non-statutory double patenting that is of the obvious type.
3. The following **non-statutory double patenting rejection** is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the right to exclude granted by a patent. See:
 - a. In re Saret, 327 F.2d 1005, 140 USPQ 474 (CCPA 1964);
 - b. In re Scheller, 397 F.2d 350, 158 USPQ 210 (CCPA 1968);
 - c. In re White, 405 F.2d 904, 160 USPQ 644 (CCPA 1969);
 - d. In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969);
 - e. In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);
 - f. In re Van Orman, 686 F.2d 937, 214 USPQ 761 (CCPA 1982);
 - g. In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 985); and
 - h. In re Goodman, 29 USPQ 2d 2010 (Fed. Cir. 1993).
4. A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).
5. Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).
6. Claim ~~1-15~~ **and 16** are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1-26 of copending Application No. 09/750,928. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following:
 - a. The methods and systems
 - i that are:
 - (1) for upgrading
 - (a) an object,
 - (i) that can be upgraded,
 - (b) to enable it to operate at a higher operation level, and
 - (2) being applied
 - (a) to one type of object, that can be upgraded and
 - (b) to another type of object, that can also be upgraded
 - (c) without an effect
 - (i) of changing the steps of the method and
 - (d) with out an effect
 - (i) of including different element of system
 - ii are actually the same methods and systems.
 - b. The only differences are being that:
 - i One method is being applied to one environment and the other method is being applied to another environment; and

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- ii One system is being applied to one environment and the other system is being applied to another environment.
- c. The different environments in which the methods and systems are applied are actually not applicant's claimed invention, but rather they are the fields of use of applicant's claimed method steps and claimed system elements, which fields of use are hereby given no patentable weight.
- d. The tables listing the claims of the Patent Application and Applicant's current claims are presented for ease of comparison of the steps of the methods and the elements of the systems.
7. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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| <p>a. Claim 1 of the Patent Application 09/750,928 claims a method for upgrading</p> <p>(1) a user environment,</p> <p>(3) wherein the user environment has</p> <p>(i) a product with a component</p> <p>1) operable to run at a low operating level and a high operating level,</p> <p>2) the component of the product being set to operate at the low operating level,</p> <p>ii the method comprising:</p> <p>(1) associating</p> <p>(3) with the product</p> <p>(b) an upgrade key,</p> <p>(i) the upgrade key having</p> <p>1) permission instructions for the component of the product to operate at the high operating level; and</p> <p>(2) enabling</p> <p>(a) the component of the product to operate at the high operating level</p> <p>(b) in response to the upgrade key being associated with the product in order to upgrade the user environment.</p> | <p>b. Applicant's claim 1 claims a method of upgrading</p> <p>(1) a storage library,</p> <p>(3) wherein the storage library has</p> <p>(i) a hardware component</p> <p>1) operable to run at low and high operating levels; and</p> <p>2) being set to operate at the low operating level; and</p> <p>ii comprising:</p> <p>(1) associating</p> <p>(3) with the storage library</p> <p>(b) an upgrade module</p> <p>(i) the upgrade module having</p> <p>1) permission instructions for the hardware component of the storage library to operate at the high operating level; and</p> <p>(2) enabling</p> <p>(a) the hardware component of the storage library to operate at the high operating level</p> <p>(b) in response to the upgrade module being associated with the storage library in order to upgrade the storage library;</p> | <p>c. Claim 26 of the Patent Application 09/750,928 claims a method for upgrading</p> <p>(1) a user environment,</p> <p>(a) wherein the user environment has</p> <p>(i) a service</p> <p>1) operable to run at a low operating level and a high operating level,</p> <p>2) the service being set to operate at the low operating level,</p> <p>ii the method comprising:</p> <p>(1) associating</p> <p>(a) with the service</p> <p>(b) an upgrade key</p> <p>(i) the upgrade key having</p> <p>1) permission instructions for the service to operate at the high operating level; and</p> <p>(2) enabling</p> <p>(a) the service to operate at the high operating level</p> <p>(b) in response to the upgrade key being associated with the service in order to upgrade the service.</p> |
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| <p>d. Claim 1 of the Patent Application 09/750,928 claims a method i for upgrading</p> <p>(1) a user environment, (a) wherein the user environment has</p> <p>(1) a product with a component</p> <p>1) operable to run at a low operating level and a high operating level,</p> <p>2) the component of the product being set to operate at the low operating level,</p> <p>ii the method comprising:</p> <p>(1) associating (a) with the product (b) an upgrade key,</p> <p>(1) the upgrade key having 1) permission instructions for the component of the product to operate at the high operating level, and</p> <p>(2) enabling (a) the component of the product to operate at the high operating level (b) in response to the upgrade key being associated with the product in order to upgrade the user environment.</p> | <p>e. Applicant's claim 1 claims a method i of upgrading</p> <p>(1) a storage library, (a) wherein the storage library has</p> <p>(1) a hardware component</p> <p>1) operable to run at low and high operating levels, and</p> <p>2) being set to operate at the low operating level, and</p> <p>ii comprising:</p> <p>(1) associating (a) with the storage library (b) an upgrade module,</p> <p>(1) the upgrade module having 1) permission instructions for the hardware component of the storage library to operate at the high operating level, and</p> <p>(2) enabling (a) the hardware component of the storage library to operate at the high operating level (b) in response to the upgrade module being associated with the storage library in order to upgrade the storage library.</p> | <p>f. 9. A method i of upgrading</p> <p>(1) a storage library, (a) wherein the storage library has</p> <p>(1) a hardware component</p> <p>1) operable to run at low and high operating levels,</p> <p>2) the hardware component being set to operate at the low operating level,</p> <p>ii the method comprising:</p> <p>(1) associating (a) with the storage library (b) a base module</p> <p>(1) the base module having for the hardware component of the storage library to operate at the low operating level,</p> <p>(ii) the base module further having 1) permission instructions for enabling the storage library to function,</p> <p>(2) disassociating (a) with the storage library (b) the base module,</p> <p>(3) associating (a) with the storage library (b) an upgrade module,</p> <p>(1) the upgrade module having permission instructions for the hardware component of the storage library to operate at the high operating level, and</p> <p>(4) enabling (a) the hardware component of the storage library to operate at the high operating level (b) in response to the upgrade module being associated with the storage library in order to upgrade the storage library.</p> <p>g. Notice that step (1) and step (2) have not effect on the method since the second one appears to be the method is in effect by the last two steps which last two steps are those of applicant's claim 1 and the Patent Application claim 1.</p> |
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| <p>8. Claim 16 of the Patent Application 09/750,928 claims a system</p> <p>a. for enhancing</p> <p>i. a user environment,</p> <p>(1) wherein the user environment has</p> <p>(a) product with a component</p> <p>1) operable to run at a low operating level and a high operating level,</p> <p>2) the component of the product being set to operate at the low operating level,</p> <p>b. the system comprising:</p> <p>i. an upgrade key</p> <p>(1) having</p> <p>(a) permission instructions</p> <p>(i) for the component of the product</p> <p>(ii) to operate at the high operating level; and</p> <p>ii. an enabling mechanism</p> <p>(1) for enabling</p> <p>(a) the component of the product</p> <p>(i) to operate at the high operating level</p> <p>(ii) in response to</p> <p>1) the upgrade key</p> <p>a) being associated</p> <p>i) with the product</p> <p>ii) in order to upgrade the user environment.</p> | <p>C Claim 9 claims a system</p> <p>i for upgrading</p> <p>(1) a storage library,</p> <p>(a) wherein the storage library has</p> <p>(1) a hardware component</p> <p>1) operable to run at low and high operating levels, and</p> <p>2) being set to operate at the low operating level,</p> <p>ii the system comprising:</p> <p>(1) an upgrade module</p> <p>(a) having</p> <p>(i) permission instructions</p> <p>1) for the hardware component of the storage library</p> <p>2) to operate at the high operating level; and</p> <p>(2) an enabling mechanism</p> <p>(a) for enabling</p> <p>(1) the hardware component of the storage library</p> <p>1) to operate at the high operating level</p> <p>2) in response to</p> <p>a) the upgrade module</p> <p>1) being associated</p> <p>(a) with the storage library</p> <p>(b) in order to upgrade the storage library;</p> |
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| <p>d. Claim 2 of the Patent Application 09/750,928 claims that the method of claim 1 further comprising: associating with the product,</p> <p>i a security mechanism, the security mechanism</p> <p>(1) containing</p> <p>(a) permission instructions for the component of the product to run at the low operating level,</p> <p>(2) wherein the security mechanism updates</p> <p>(a) the permission instructions for the component to run at the high operating level upon the upgrade key being associated with the product.</p> | <p>e. Applicant's Claim 3 claims the method of claim 1 further comprising: associating with the storage library,</p> <p>i an enabling mechanism, the enabling mechanism</p> <p>(1) containing</p> <p>(a) permission instructions for the hardware component of the storage library to run at the low operating level,</p> <p>(b) wherein the enabling mechanism updates</p> <p>(i) the permission instructions for the hardware component to run at the high operating level upon the upgrade module being associated with the storage library,</p> | <p>f. Applicant's Claim 10 claims the system of claim 9 wherein:</p> <p>i the enabling mechanism</p> <p>(1) contains</p> <p>(a) permission instructions for the hardware component of the storage library to run at the low operating level,</p> <p>(2) wherein the security mechanism updates</p> <p>(a) the permission instructions for the hardware component to run at the high operating level upon the upgrade module being associated with the storage library,</p> | <p>9. Claim 17 of the Patent Application claims: the system of claim 16, wherein: the enabling mechanism includes</p> <p>a. a security mechanism</p> <p>i containing</p> <p>(1) permission instructions for the component of the product to run at the low operating level,</p> <p>ii wherein the security mechanism updates</p> <p>(1) the permission instructions for the component to run at the high operating level upon the upgrade key being associated with the product.</p> |
| <p>10. Claim 3 of the Patent Application claims: the method of claim 1 wherein: the product is a computer.</p> | <p>11. Claim 18 of the Patent Application claims: the system of claim 16 wherein: the product is a computer.</p> | | |

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| <p>a. In the Patent Application, claims 4-7 claim:</p> <ul style="list-style-type: none"> i. 4. The method of claim 3 wherein: the component is a central processing unit of the computer. ii. 5. The method of claim 3 wherein: the component is a hard disk of the computer. iii. 6. The method of claim 3 wherein: the component is random access memory of the computer. iv. 7. The method of claim 3 wherein: the component is software of the computer. | <p>b. Applicant's Claims 4-6 claim:</p> <ul style="list-style-type: none"> i. 4. The method of claim 1 wherein: the hardware component is a storage array for storing media of the storage library. ii. 5. The method of claim 1 wherein: the hardware component is a set of media players for performing operations on media of the storage library. iii. 6. The method of claim 1 wherein: the hardware component is a robotic mechanism for manipulating media of the storage library. | <p>c. Applicant's Claims 11-13 claim:</p> <ul style="list-style-type: none"> i. 11. The storage library of claim 9 wherein: the hardware component is a storage array for storing media of the storage library. ii. 12. The storage library of claim 9 wherein: the hardware component is a set of media players for performing operations on media of the storage library. iii. 13. The storage library of claim 9 wherein: the hardware component is a robotic mechanism for manipulating media of the storage library. <p>d. Applicant's Claim 18 claims:</p> <ul style="list-style-type: none"> i. 18. The method of claim 16 wherein: the hardware component is a storage array for storing media. | <p>12. In the Patent Application, claims 19-22 claim:</p> <ul style="list-style-type: none"> a. The system of claim 18 wherein: the component is a central processing unit of the computer. b. In the Patent Application, claim 20 claims: The system of claim 18 wherein: the component is a hard disk of the computer. c. In the Patent Application, claim 21 claims: The system of claim 18 wherein: the component is random access memory of the computer. d. In the Patent Application, claim 22 claims: The system of claim 18 wherein: the component is software of the computer. |
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| 13. In the Patent Application, claims 8, 9 and 10 claim: | a. Applicant's Claims 2, 7 and 8 claim as shown below in this column: | b. Applicant's Claims 14 and 15 claim as shown below in this column: | 14. In the Patent Application, claims 23, 24 and 26 claim: |
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| b. .8. The method of claim 1 wherein: the upgrade key is a cryptographic update key. | <p>i. 2. The method of claim 1 wherein: associating an upgrade module with the storage library includes</p> <p>(1) attaching</p> <p>(a) an upgrade module</p> <p>(b) to the storage library;</p> | | c. .23. The system of claim 16 wherein: the upgrade key is a cryptographic update key. |
| d. .9. The method of claim 1 wherein: associating i. (1) a smart card (a) having the upgrade key (2) with the product. | <p>ii. 7. The method of claim 1 wherein: associating an upgrade module with the storage library includes</p> <p>(1) associating</p> <p>(a) an EEPROM module</p> <p>(b) with the storage library;</p> | <p>iii. 14. The storage library of claim 9 wherein: the upgrade module is</p> <p>(1) an EEPROM module;</p> | e. .24. The system of claim 16 wherein: the upgrade key is contained on a smart card. |
| f. .10. The method of claim 1 wherein: associating i. (1) the upgrade key (2) from the Internet (3) to the product. | <p>ii. 8. The method of claim 1 wherein: associating an upgrade module with the storage library includes</p> <p>(1) transferring</p> <p>(a) permission instructions</p> <p>(b) from the Internet</p> <p>(c) to the storage library;</p> | <p>iii. 15. The storage library of claim 9 wherein: the permission instructions are:</p> <p>(1) transferable</p> <p>(a) to the upgrade module</p> <p>(b) via the Internet;</p> | g. .25. The system of claim 16 wherein: the upgrade key is contained in data of the Internet. |

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Claim Rejections - 35 USC § 112

15. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

16. Claims 10, 16-18, 19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. With regard to claim 10:
 - i The phrase "the security mechanism" lacks antecedent basis.
- b. With regard to claim 16:
 - i in the "wherein" clause, it is not clear as to what element/component/ is the one that needs the base module in order to function.
 - ii It is not clear as to how it is possible that the second storage library is available so that it can be associated with the base module.
 - (1) Notice that the preamble has been set forth to claim that the method is of upgrading from a first storage library to a second storage library, which preamble indicated that the second storage library cannot be available until all the steps of the method have been carried out.
 - iii The body of the claim does not support the preamble of the claim.
 - (1) Notice that:
 - (a) In the preamble:
 - (i) the base module is said to be needed to be associated with a storage library in order to function and
 - (ii) the hardware component of the second storage library is to operate.
 - (b) But in the body of the claim:
 - (i) the disassociating step disassociates the base module from the second storage library.
 - (2) If the base module is disassociated from the second storage library, then it appears that the second library cannot function since the preamble states that the base module is needed to be associated with a storage library in order to function.
 - (a) (The applicant is hereby signaled that the claim must be amended to avoid inoperativeness problem, which problem is not rejected under 35 USC 101 as being wavered at this time since it just might be a problem of confusion rather than of inoperativeness {which confusion must be clarified by the applicant}).
- c. With regard to claim 17:
 - i The recitation of this claim does not cure the problems of indefiniteness in claim 16. This claim is also rejected together with claim 16 since it inherits the problem of indefiniteness therefrom.
- d. With regard to claim 18:
 - i The recitation of this claim does not cure the problems of indefiniteness in claim 16. This claim is also rejected together with claim 16 since it inherits the problem of indefiniteness therefrom.
- e. With regard to claim 19:
 - i The purpose for which the first associating step and the disassociating step are recited is not clear since the disassociating step would reverse the associating step.

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- f. With regard to claim 20:
- i. The recitation of this claim does not cure the problems of indefiniteness in claim 19. This claim is also rejected together with claim 19 since it inherits the problem of indefiniteness therefrom.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

18. Claims 1-16, 18, and 19 are rejected under 35 U.S.C. 103(a) as being obvious over Applicant's admitted prior art [Back Ground Art in Applicant's specification] in view of Davis (6,058,478).

- a. As to claim 1:
 - i. Claim 1 claims a method
 - (1) of upgrading
 - (a) a storage library,
 - i) wherein the storage library has
 - 1) a hardware component
 - a) operable to run at low and high operating levels, and
 - b) being set to operate at the low operating level,
 - (2) comprising:
 - (a) associating
 - (i) with the storage library
 - (ii) an upgrade module,
 - 1) the upgrade module having
 - a) permission instructions
 - i) for the hardware component of the storage library
 - ii) to operate at the high operating level; and
 - (b) enabling
 - (i) the hardware component of the storage library
 - 1) to operate at the high operating level
 - 2) in response to
 - a) the upgrade module being associated
 - i) with the storage library
 - ii) in order to upgrade the storage library.
 - ii. Preliminary matters related to claim 1:
 - (1) It is intrinsic to the storage library that:

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- (a) The operating levels of hardware component are of the storage library, rather than applicant's inventive step of the claimed method.
- (b) The capability of setting/configuring of the hardware component (which is capable to operate at operating levels) to operating at one operating level indicates that the hardware component can also be set/configured to operate at another operating level.
 - (i) It is readily understood that setting/configuring a hardware component to operate at a level is done by a set of instructions (as it is known that computer components are operable according to instruction codes).
- (2) The upgrade module having permission instructions (without more) is just a combination of the permission instructions.
 - (a) The term "permission instructions", which has the modifier "permission" that does not add further step to the method, is simply not different from the word "instructions".
- (3) In order to effectuate an operation according to a set of instructions, the instructions must programmed and inherently be made available to the processing unit which responds to it in order to enable whatsoever that set of instructions is programmed to do.
- (4) Associating/attaching/transferring)
 - (a) the instructions
 - (i) {i.e., (attaching the instructions to <claim 2>), (associating an semiconductor memory (e.g., ROM module, EPROM module, EEPROM module, Flash EEPROM module) in which the instructions is stored with <claim 7>), or (transferring/transmitting the instructions form the Internet to <claim 8>))}
 - (b) with the library
 - (c) is
 - (i) similar
 - 1) to the association of those instructions (that is inherent in order) for setting the hardware component to operate at the low operating level
 - 2) in that the association must inherently be in order to effectuate the operation level (at a certain operation level).
- (5) The set of instructions, which effectuate the setting of the hardware component to operate at the lower operating level, are in inherently be in a module/original-module/ initial-module).
- (6) The applicant has admitted [in Background Art in the specification] the following:
 - (a) [0003] Storage libraries in a product line typically have a common base unit with differing options.
 - (i) For example, these (the type and capacity of cartridge storage cells, the type and amount of media players, and the robotic mechanism capability) may all be varied.
 - (ii) In the manufacturing and configuration process, each storage library model is setup differently (e.g., 10 vs. 20 cartridge storage capability, 2 vs. 4 media players, single vs. multiple robotic mechanisms, advanced vs. basic media players, larger vs. smaller frames, etc.).
 - (b) [0004] Having multiple options available as different modes requires additional development and manufacturing overhead to assemble and test similar albeit different storage libraries.
 - (i) For the storage library consumer upgrading can be a daunting, if not impossible, task requiring specialized skills.
 - (ii) Some manufacturers support upgrading by requiring field installs to upgrade or expand the storage libraries.
 - (c) [0005] Further, storage libraries of different product lines within a product family also have differing options.
 - (i) For instance, a storage library of a first product line may have a low maximum storage capacity while a storage library of a second product line may have a high maximum storage capacity.
- iii With the above preliminary matters, the examiner observes that:
 - (1) the claimed method is simply lacking an inventive step, and is unpatentable over Applicant's admitted prior art.
 - (a) Notice that:
 - (i) Applicant's admitted prior art teaches:
 - 1) updating (by field installation) of storage libraries;

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- 2) storage libraries
 - a) have a common base unit
 - i) with differing options (e.g., varied robotic mechanism capability),
 - b) each of which libraries is configured differently with different setup, and
 - c) have differing options (e.g., low maximum storage capacity and high maximum storage capacity).
- iv Again, claim 1 claims a method
 - (1) of upgrading
 - (a) a storage library,
 - i) wherein the storage library has
 - 1) a hardware component
 - a) operable to run at low and high operating levels, and
 - b) being set to operate at the low operating level; and
 - (2) comprising:
 - (a) associating
 - i) with the storage library
 - ii) an upgrade module,
 - 1) the upgrade module having
 - a) permission instructions
 - i) for the hardware component of the storage library
 - ii) to operate at the high operating level; and
 - (b) enabling
 - i) the hardware component of the storage library
 - 1) to operate at the high operating level
 - 2) in response to
 - a) the upgrade module being associated
 - i) with the storage library
 - ii) in order to upgrade the storage library.
- v Applicant's admitted prior art teaches a method
 - (1) of a storage library
 - (a) wherein the library has
 - i) a hardware component
 - 1) operable to run at a low/programmable/configurable/settable operating level; and
 - (2) comprising:
 - (a) associating
 - i) with the library
 - ii) an original/configured module
 - 1) having
 - a) instructions
 - i) for the hardware component
 - ii) to operate that the low/programmable/configurable/settable operating level; and
 - (b) [inherently] enabling
 - i) the hardware component

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- 1) to operate at the low operating level
 2) in response
 a) to the original/configured module being associated
 i) with the storage library
 ii) in order to originally operate the storage library,
 [which enabling is inherent because the hardware component is to operate at certain operating level].
- vi However, the method of applicant's admitted prior art is generally of a storage library (or more specifically to a configuration process for initially setting up a storage library), rather than updating the initially set configuration.
- vii The features in the wherein clause is perceived to be not of Applicant's invention.
 (1) Since this claim is a method claim:
 (a) the steps of the method are addressed (and have been addressed with respect to applicant's admitted prior art); and
 (b) the hardware component will be addressed below in the rejection of apparatus/system claim(s).
- viii It would have been obvious to a person having ordinary skill in the art at the time the invention was made to:
 (1) realize that
 (a) instructions/parameters/control-information (inherently used in applicant's admitted prior art to set the library to run at low operating level)
 (i) is relative -- (low one can be lowered, or one setting could be high relative to a setting of another setting -- {see to it that "differing options" and "setup differently" in Applicant's Background Art}); and
 (b) a setup option that is different from another setup option is analogous to an upgrade of one over the other.
- ix The skilled person would have been motivated
 (1) to provide either
 (a) instructions for a piece of hardware component to operate at a low operating level or
 (b) instructions for the piece of hardware component to operate at a high operating level
 (2) because:
 (a) the piece of hardware component (that is operable to run at low and high operating levels).
- x [See the rationales for rejecting claim 9 below for examiner's addressing of the limitation, {i.e., hardware component operable to run at low and high operating levels}, that in the wherein clause].

b. As to claim 9:

| Claim 9 is hereby set in parallel with claim 1 for ease of observation and comparison between the two claims. | |
|---|--|
| (1) | (2) |
| 1. A method (a) of upgrading (b) wherein (i) the storage library has a) a hardware component i) operable to run at low and high operating levels, ii) the hardware component being set to operate at the low operating level; (c) the method comprising: (i) associating 1) with the storage library 2) an upgrade module, a) the upgrade module having permission instructions for the hardware component of the storage library to operate at the high operating level; and ii) to operate at the low operating level; and | 9. A system (a) for upgrading (b) wherein (i) the storage library has a) a hardware component i) operable to run at low and high operating levels, ii) the hardware component of the storage library being set to operate at the low operating level; (c) the system comprising: (i) an upgrade module 1) having a) permission instructions for the hardware component of the storage library to operate at the high operating level; and ii) to operate at the low operating level; and |

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| | |
|--|--|
| <p>(ii) enabling the hardware component of the storage library to operate at the high operating level in response to the upgrade module being associated with the storage library in order to upgrade the storage library.</p> | <p>(ii) an enabling mechanism for enabling the hardware component of the storage library to operate at the high operating level in response to the upgrade module being associated with the storage library in order to upgrade the storage library.</p> |
|--|--|

ii Claim 9 claims a system

- (1) for upgrading
 - (a) a storage library,
 - (i) wherein the storage library has
 - a) a hardware component
 - i) operable to run at low and high operating levels, and
 - ii) being set to operate at the low operating level,
 - (2) the system comprising:
 - (a) an upgrade module
 - (i) having
 - 1) permission instructions
 - a) for the hardware component of the storage library
 - b) to operate at the high operating level; and
 - (b) an enabling mechanism
 - (i) for enabling
 - 1) the hardware component of the storage library
 - a) to operate at the high operating level
 - b) in response to the upgrade module being associated with the storage library in order to upgrade the storage library.
- iii System Claim 9 has limitations that are similar to those of method claim 1, which has been rejected above.
- (1) Claim 9 is thus similarly rejected with the rationales applied against claim 1, with an elaboration on addressing the capability of the hardware component to run/operate at low and high operating levels recited in the "wherein" clause.
- iv The characteristic of the hardware component
- (1) is recited
- (a) in the "wherein" clause,
 - (b) in the preamble of the claim, and
 - (c) as a capability of the hardware component
 - (d) [the combination of which the hardware component is recited has no patentable weight]; and
- (2) is presented as an existing characteristic of an element in a claim that is in Jepson form
- (a) [the limitations presented in the preamble in a claim of Jepson form are not new in the art, but rather are those which have been existing in the art].
- v The examiner anticipates that the applicant might argue that the object (in the admitted prior art) to be upgraded has not been made to run at low and high operating levels.
- (1) To avoid such argument, the examiner presents Davis (6,058,478).
- (a) Davis teaches a hardware component [i.e., cryptographic component within a system]:
- (i) that is capable of operating at low and high operating levels [lower and higher security levels (e.g., 40 bits-level and 56 bits-level)].

- 1) which operation levels can be modified/upgraded
 - a) with permission instructions [i.e., upgrade message].
- (b) However, Davis does not explicitly teach that the host system in which his cryptographic component is a storage library.
- (c) Applicant's admitted prior art teaches the storage library.
- (d) It would have been obvious to a person having ordinary skill in the art at the time the invention was made to implement the cryptographic component such as that of Davis in the storage library such as that of Applicant's admitted prior art.
- (e) The skilled person would have been motivated to do such implementation because:
 - (i) the skilled person would have realized that such storage library is a computer system and
 - (ii) computer systems (storing/processing/exchanging information/data/file) are required by security authorities to have cryptographic function.

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c. As per claim 16:

| i Claim 16 is hereby set in parallel with claim 1 for ease of observation and comparison between the two claims. | |
|--|---|
| <p>(1) 1. A method</p> <p>(a) of upgrading</p> <p>(i) a storage library,</p> <p>(b) wherein</p> <p>(i) the storage library has</p> <p>1) a hardware component</p> <p>a) operable to run at low and high operating levels,</p> <p>b) the hardware component being set to operate at the low operating level,</p> <p>(c) the method comprising:</p> <p>(i) associating</p> <p>1) with the storage library</p> <p>2) an upgrade module,</p> <p>a) the upgrade module having</p> <p>i) permission instructions for the hardware components of the storage library to operate at the high operating level; and</p> <p>(ii) enabling</p> <p>1) the hardware component of the storage library</p> <p>a) to operate at the high operating level</p> <p>b) in response to the upgrade module being associated with the storage library in order to upgrade the storage library.</p> | <p>(2) 16. A method</p> <p>(a) of upgrading</p> <p>(i) from a first storage library</p> <p>1) having a hardware component operable to run at a low operating level</p> <p>(ii) to a second storage library</p> <p>1) having the hardware component operable to run at a high operating level,</p> <p>(b) wherein a base module is needed to be associated with a storage library in order to function,</p> <p>(c) the method comprising:</p> <p>*****</p> <p>(i) associating</p> <p>1) with the second storage library</p> <p>2) a base module</p> <p>a) from the first storage library;</p> <p>b) the base module having</p> <p>i) permission instructions for the hardware component to operate at the low operating level;</p> <p>(ii) prompting,</p> <p>1) in response</p> <p>a) to recognizing</p> <p>i) the permission instructions of the base module for the hardware component to operate at the low operating level;</p> <p>2) for an upgrade module</p> <p>a) to be associated with the second storage library,</p> <p>b) the upgrade module having</p> <p>i) permission instructions for the hardware component to operate at the high operating level;</p> <p>(iii) disassociating</p> <p>1) the base module</p> <p>2) from the second storage library;</p> <p>*****</p> <p>(iv) associating</p> <p>1) the upgrade module</p> <p>2) with the second storage library; and</p> <p>(v) accepting</p> <p>1) the permission instructions</p> <p>a) of the upgrade module</p> <p>b) for the hardware component to operate at the high operating level.</p> |

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- ii Preliminary matters related to claim 16:
 - (1) he last three steps of claim 16 are similar to those of claim 1 and thus will not redundantly addressed.
 - (2) It appears that the last two steps are sufficient to support the upgrading since they are those in the body claim 1 which is supposed to support the preamble of claim 1.
 - (3) The necessity of the base module
 - (a) is recited
 - (i) as a combination
 - 1) of in the "wherein" clause, and in the preamble of the claim,
 - 2) [the combination of which base module is recited has no patentable weight]; and
 - (b) is presented as an existing characteristic of an element in a claim that is in Jepson form,
 - (i) [the limitations presented in the preamble in a claim of Jepson form are not new in the art, but rather are those which have been existing in the art]; and
 - (c) the base module/unit is of Applicant's admitted prior art [see paragraph 3 in the Background Art section of Applicant's specification].
 - (4) Applicant's admitted prior art teaches:
 - (a) a base unit
 - (i) with differing options for setting/configuring a storage library differently and
 - (ii) that
 - 1) is be associated with a storage library and
 - 2) thus inherently be disassociated from the storage library to which it is associated.
 - iii With the above preliminary matters, the examiner:
 - (1) observers that the claimed method
 - (a) is the second step, which second step is:
 - (i) **prompting,**
 - 1) **in response**
 - a) **to recognizing** the permission instructions of the base module for the hardware component to operate at the low operating level,
 - 2) **for an upgrade module**
 - a) **to be associated** with the second storage library
 - b) the upgrade module having permission instructions for the hardware component to operate at the high operating level; and
 - b) the difference between claim 1 and claim 16 is that the method of claim 1 does not recite a condition of upgrading an operational level, but claim 16 does call for a condition when to upgrading an operation level, and that whence is if the current/base/existing module does not have instructions that support a desired operation level.
 - (2) sees that the difference between claim 1 and claim 16 is that the method of claim 1 does not recite a condition of upgrading an operational level, but claim 16 does call for a condition when to upgrading an operation level, and that whence is if the current/base/existing module does not have instructions that support a desired operation level.
- iv Claim 1 has been addressed above.
- v Applicant's admitted prior art teaches:
 - (1) that the base unit for storage library has differing/multiple options available as different modes.
- vi It would have been obvious to a person having ordinary skill in the art at the time the invention was made to:
 - (1) consider
 - (a) that one of a plurality of base units/module (each of which has a different option/mode) to be a base module and
 - (b) that another one of the plurality of the base units/modules to be a another (upgraded) module; and
 - (2) simply use one of the two modules ("base" and upgraded modules) as desired.
- vii The skilled person would have been motivated to use either one of the two module among the plurality of different modules of applicant's admitted prior art because:
 - (1) they are available for use as they have been used in the different storage libraries of applicant's admitted prior art.

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d. As to claim 19:

| i Claim 19 is hereby set in parallel with claim 16 for ease of observation and comparison between the two claims. | |
|--|--|
| <p>(1) }6. A method of upgrading</p> <p>(a) {1} from a first storage library having a hardware component operable to run at a low operating level</p> <p>(ii) {1} to a second storage library having the hardware component operable to run at a high operating level, wherein a base module is needed to be associated with a storage library in order to function,</p> <p>(c) the method comprising:</p> <p>(i) associating with the second storage library a base module</p> <p>2} from the first storage library, the base module having permission instructions for the hardware component to operate at the low operating level;</p> <p>(ii) prompting, in response</p> <p>a) {1} to recognizing the permission instructions of the base module for the hardware component to operate at the low operating level;</p> <p>2} for an upgrade module</p> <p>a) {1} to be associated with the second storage library</p> <p>b) {1} the upgrade module having permission instructions for the hardware component to operate at the high operating level;</p> <p>(iii) disassociating the base module from the second storage library;</p> <p>(iv) associating the upgrade module with the second storage library; and</p> <p>(v) accepting the permission instructions of the upgrade module for the hardware component to operate at the high operating level.</p> | <p>(2) }9. A method of upgrading</p> <p>(a) {1} a storage library, wherein the storage library has a hardware component operable to run at low and high operating levels, the hardware component being set to operate at the low operating level;</p> <p>(b) the method comprising:</p> <p>(i) associating with the storage library a base module</p> <p>a) {1} the base module having permission instructions for the hardware component of the storage library to operate at the low operating level, the base module further having permission instructions for enabling the storage library to function;</p> <p>(ii)</p> <p>(iii) disassociating storage library with the base module;</p> <p>(iv) associating with the storage library an upgrade module;</p> <p>a) {1} the upgrade module having permission instructions for the hardware component of the storage library to operate at the high operating level; and</p> <p>(v) enabling the hardware component of the storage library to operate at the high operating level in response to the upgrade module being associated with the storage library in order to upgrade the storage library.</p> |

- ii Claim 19 does not recite the prompting step of claim 16.
- iii In claim 19, the first associating step and the is reversed by the disassociating step.
 - (1) This reversal results in that (a) the base module is taken away from the storage library and (b) the storage library would be without the base module as it was before the base module is associated.
- iv In effect, only the last two steps of claim 19 do any changes to the storage library.
 - (1) with the last two step in effect,
 - (2) has limitations that are similar to that of claim 1, which limitations of claim have been addressed above.
- v Claim 19,

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- vi Claim 19 is thus similarly rejected with the rationales applied against claim 1 above.
 e. As to claims 3, and 10:

| i | ii |
|---|--|
| <p>Claim 3 claims:</p> <p>(1) 3 The method of claim 1 further comprising:</p> <p>(a) associating an enabling mechanism with the storage library,</p> <p>(ii) the enabling mechanism</p> <p>1) containing permission instructions for the hardware component of the storage library</p> <p>ii) to run at the low operating level,</p> <p>2) wherein the enabling mechanism updates the permission instructions</p> <p>a) for the hardware component</p> <p>ii) to run at the high operating level upon the upgrade module being associated with the storage library.</p> | <p>Claim 10 claims:</p> <p>(1) 10. The system of claim 9</p> <p>(a) wherein:</p> <p>(i) the enabling mechanism</p> <p>1) contains permission instructions for the hardware component of the storage library</p> <p>ii) to run at the low operating level,</p> <p>2) wherein the security mechanism updates the permission instructions</p> <p>a) for the hardware component</p> <p>ii) to run at the high operating level upon the upgrade module being associated with the storage library.</p> |

- iii For addressing claim 3 and 10, Claims 1 and 9 is hereby readressed with in incorporation of additional limitations (of security matter) recited in claims 3 and 10, which claim 9 claims a system (and thus the method of claim 1)
- (1) for upgrading
- (a) a storage library,
- (i) wherein
- 1) the storage library
- a) has a hardware component
- i) operable to run at low and high operating levels, and
- ii) being set to operate at the low operating level,
- (2) the system comprising:
- (a) an upgrade module
- (i) having permission instructions
- (ii) for the hardware component of the storage library to operate at the high operating level; and
- (b) an enabling mechanism
- (i) for enabling
- 1) the hardware component of the storage library
- 2) to operate at the high operating level
- a) in response to the upgrade module being associated with the storage library in order to upgrade the storage library.
- iv System Claim 9 has limitations that are similar to those of method claim 1, which has been rejected above:
- (1) Claim 9 is thus similarly rejected with the rationales applied against claim 1, with an elaboration on addressing the capability of the hardware component to run/operate at low and high operating levels recited in the "wherein" clause.
- v The examiner anticipates that the applicant might argue that the object (in the admitted prior art) to be upgraded has not been made to run at low and high operating levels.
- (1) To avoid such argument, the examiner presents Davis (6,058,478).

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- (a) Davis teaches a hardware component [i.e., cryptographic component within a system]:
- (i) that is capable of operating at low and high operating levels [lower and higher security levels (e.g., 40 {low} bits-level and 56 {high} bits-level)],
 - 1) which operation levels can be modified/upgrade
 - a) with permission instructions [i.e., upgrade message],
 - i) which combination of permission instructions {1} is a security/enabling mechanism {a} that does security authentication and {b} that either permits (or prevents) the upgrade-able object to be upgraded.
 - (b) However, Davis does not explicitly teach that the host system in which his cryptographic component is a storage library.
 - (c) Applicant's admitted prior art teaches the storage library.
 - (d) It would have been obvious to a person having ordinary skill in the art at the time the invention was made to:
 - (i) implement
 - 1) the cryptographic component (such as that of Davis)
 - 2) in the storage library
 - a) such as that of Applicant's admitted prior art.
 - (e) The skilled person would have been motivated to do such implementation because:
 - (i) the skilled person would have realized that such storage library is a computer system (with controllable peripheral storage devices) and
 - (ii) computer systems (storing/processing/exchanging information/data/file) are required by security authorities to have cryptographic function.

f. As to claims 4-6; 11-13 and 18:

| i Claims 4-6 claim: | ii Claims 11-13 claim: | iii Claim 18 claims: |
|---|---|---|
| <p>(1) 4. The method of claim 1 wherein:</p> <p>(a) the hardware component</p> <p>(i) is</p> <p>a) a storage array for storing media of the storage library. OR</p> <p>(2) 5. The method of claim 1 wherein: the hardware component is</p> <p>1) a set of media players for performing operations on media of the storage library. OR</p> <p>(3) 6. The method of claim 1 wherein: the hardware component is</p> <p>1) a robotic mechanism for manipulating media of the storage library.</p> | <p>(1) 11. The storage library of claim 9 wherein:</p> <p>(a) the hardware component</p> <p>(i) is</p> <p>1) a storage array for storing media of the storage library. OR</p> <p>(2) 12. The storage library of claim 9 wherein: the hardware component is</p> <p>1) a set of media players for performing operations on media of the storage library. OR</p> <p>(3) 13. The storage library of claim 9 wherein: the hardware component is</p> <p>1) a robotic mechanism for manipulating media of the storage library.</p> | <p>(1) 18. The method of claim 16 wherein:</p> <p>(a) the hardware component</p> <p>(i) is</p> <p>1) a storage array for storing media.</p> |

iv In the specification at paragraph 17 (in the Summary of the Invention) the applicant also recited the limitation claimed as follow:

- (1) The hardware component
- (a) may be
- (i) a storage array

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- 1) for storing
 - a) media of the storage library,
 - (ii) a set of media players
 - 1) for performing
 - a) operations on media of the storage library, **or**
 - (iii) a robotic mechanism
 - 1) for manipulating
 - a) media of the storage library.
- v With respect to claims 4-6, claims 11-13 and claims 18:
- (1) Applicant's admitted prior art teaches that the host system in which the hardware component is a storage library, which storage library is described as follow:
 - (a) Such storage libraries use
 - (i) a robotic mechanism
 - (ii) to quickly move
 - 1) the media cartridges
 - 2) between
 - a) their media cartridge storage cells and
 - b) media cartridge players.

g. As to claims 2, 7, 8, 14 and 15:

| i Claims 2, 7 and 8 claim: | ii Claims 14 and 15 claim: |
|--|--|
| <p>(1) 2. The method of claim 1 wherein:</p> <ul style="list-style-type: none"> (a) associating an upgrade module with the storage library <ul style="list-style-type: none"> (i) 1) includes <ul style="list-style-type: none"> a) attaching <ul style="list-style-type: none"> 1) an upgrade module to the storage library. <p>OR</p> <p>(2) 7. The method of claim 1 wherein: associating an upgrade module with the storage library includes</p> <ul style="list-style-type: none"> a) associating an EEPROM module with the storage library. OR 1) associating an EEPROM module with the storage library. <p>(3) 8. The method of claim 1 wherein: associating an upgrade module with the storage library includes</p> <ul style="list-style-type: none"> a) transferring <ul style="list-style-type: none"> 1) permission instructions from the Internet to the storage library. | <p>(1) 14. The storage library of claim 9 wherein:</p> <ul style="list-style-type: none"> (a) the upgrade module <ul style="list-style-type: none"> (i) 1) is an EEPROM module. <p>(2) 15. The storage library of claim 9 wherein: the permission instructions are transferable to the upgrade module via the Internet.</p> |

- iii With respect to claims 2, 7, or 8, claims 14 or 15:
 - (1) Applicant's admitted teaches

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- (a) associating instructions with the library for causing its hardware component to operate accordingly (low/high operation rate);
- (2) Davis teaches
 - (a) associating/programming
 - (i) cryptographic programs with the system in which they are used, and
 - (b) associating/transmitting
 - (i) upgrade message to the cryptographic device
- (3) With regard to storing upgrade module in an EEPROM, it would have been obvious to a person having ordinary skill in the art to realize that module/programs/instruction-codes can be stored in any type of memory/storage and then make that memory/storage available for reading out.
- (4) The skilled person would have been motivated to store the upgrade module such as that of Davis in a EEPROM because:
 - (a) it is inherent that Davis's upgrade module is stored in a memory that is readable/downloadable by (or associable with) a computer.

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ly V. Hua whose telephone number is (703) 305-9684. The examiner can normally be reached on Monday to Friday from 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vu Kim, can be reached on 703-305-4303. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Ly V. Hua
Primary Examiner
Art Unit 2135

Lvh
June 20, 2004